MEDICAL POLICY – 8.03.05
Outpatient Pulmonary Rehabilitation

BCBSA Ref. Policy: 8.03.05
Effective Date: June 1, 2020
Last Revised: May 5, 2020
Replaces: N/A

RELATED MEDICAL POLICIES:
7.03.07 Lung and Lobar Lung Transplant
7.03.08 Heart/Lung Transplant

Select a hyperlink below to be directed to that section.

POLICY CRITERIA | DOCUMENTATION REQUIREMENTS | CODING
RELATED INFORMATION | EVIDENCE REVIEW | REFERENCES | HISTORY

∞ Clicking this icon returns you to the hyperlinks menu above.

Introduction

Pulmonary means “relating to the lungs.” Pulmonary rehabilitation is generally given to people with chronic lung disease when medication no longer helps. It’s also used before and after specific types of lung surgery. The goal is to help a person gain and keep their highest level of functioning and independence. A team of healthcare professionals cover topics that include:

- Education about the specific lung condition and how to manage it
- Nutrition
- Breathing re-training
- Exercise

This policy describes when pulmonary rehabilitation may be considered medically necessary.

Note: The Introduction section is for your general knowledge and is not to be taken as policy coverage criteria. The rest of the policy uses specific words and concepts familiar to medical professionals. It is intended for providers. A provider can be a person, such as a doctor, nurse, psychologist, or dentist. A provider also can be a place where medical care is given, like a hospital, clinic, or lab. This policy informs them about when a service may be covered.
## Policy Coverage Criteria

### Rehabilitation | Medical Necessity
--- | ---
A single course of pulmonary rehabilitation | A single course of outpatient pulmonary rehabilitation in the outpatient ambulatory care setting may be considered medically necessary for treatment of chronic pulmonary disease for patients with moderate to severe disease who are experiencing disabling symptoms and have significantly diminished quality of life despite optimal medical management.  

A single course of outpatient pulmonary rehabilitation may be considered medically necessary in an outpatient ambulatory care setting as a preoperative conditioning component for those considered to be appropriate candidates for lung volume reduction surgery and for lung transplantation (see Related Policies).

Pulmonary rehabilitation programs after lung transplantation | Pulmonary rehabilitation programs are considered medically necessary following lung transplantation.

### Rehabilitation | Investigational
--- | ---
Multiple courses of pulmonary rehabilitation | Multiple courses of pulmonary rehabilitation are considered investigational, either as maintenance therapy in patients who initially respond, or in patients who fail to respond, or whose response to an initial rehabilitation program has diminished over time.

Home-based pulmonary rehabilitation | Home-based pulmonary rehabilitation programs are considered investigational.

Pulmonary rehabilitation programs after lung surgery and other situations | Pulmonary rehabilitation programs are considered investigational following all lung surgeries other than lung transplantation, including but not limited to lung volume reduction surgery and surgical resection of lung cancer.  

Pulmonary rehabilitation programs are considered investigational in all other situations.
Additional Information

- A pulmonary rehabilitation outpatient program is a comprehensive program that generally includes team assessment, patient training, psychosocial intervention, exercise training, and follow-up. The overall length of the program and the total number of visits for each component may vary from program to program.
- Team assessment includes input from a physician, respiratory care practitioner, nurse, and psychologist, among others.
- Patient training includes breathing retraining, bronchial hygiene, medications, and proper nutrition.
- Psychosocial intervention addresses support system and dependency issues.
- Exercise training includes strengthening and conditioning and may include stair climbing, inspiratory muscle training, treadmill walking, cycle training (with or without ergometer), and supported and unsupported arm exercise training. Exercise conditioning is an essential component of pulmonary rehabilitation. Education in disease management techniques without exercise conditioning does not improve health outcomes of patients who have chronic obstructive pulmonary disease.
- Follow-up to a comprehensive outpatient pulmonary rehabilitation program may include supervised home exercise conditioning.
- Candidates for pulmonary rehabilitation should be medically stable and not limited by another serious or unstable medical condition. Contraindications to pulmonary rehabilitation include severe psychiatric disturbance (e.g., dementia, organic brain syndrome), and significant or unstable medical conditions (e.g., heart failure, acute cor pulmonale, substance abuse, significant liver dysfunction, metastatic cancer, disabling stroke).

Documentation Requirements

The medical records submitted for review should document that medical necessity criteria are met. The record should include clinical documentation of the following:

- History and physical examination documenting the severity of the member’s pulmonary disease

AND

- Member has disabling symptoms that have significantly diminished member’s quality of life despite optimal medical management

OR

- Member is preparing for or recovering from:
  - Lung volume reduction surgery
# Documentation Requirements

**OR**

- Lung Transplantation

## Coding

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
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<tbody>
<tr>
<td>G0237</td>
<td>Therapeutic procedures to increase strength or endurance of respiratory muscles, face-to-face, one-on-one, each 15 minutes (includes monitoring)</td>
</tr>
<tr>
<td>G0238</td>
<td>Therapeutic procedures to improve respiratory function, other than described by G0237, one-on-one, face-to-face, per 15 minutes (includes monitoring)</td>
</tr>
<tr>
<td>G0239</td>
<td>Therapeutic procedures to improve respiratory function or increase strength or endurance of respiratory muscles, 2 or more individuals (includes monitoring)</td>
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<td>G0302</td>
<td>Preoperative pulmonary surgery services for preparation for LVRS, complete course of services, to include a minimum of 16 days of services</td>
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<td>G0303</td>
<td>Preoperative pulmonary surgery services for preparation for LVRS, 10 to 15 days of services</td>
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<tr>
<td>G0304</td>
<td>Preoperative pulmonary surgery services for preparation for LVRS, 1 to 9 days of services</td>
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<tr>
<td>G0305</td>
<td>Postdischarge pulmonary surgery services after LVRS, minimum of 6 days of services</td>
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<tr>
<td>G0424</td>
<td>Pulmonary rehabilitation, including exercise (includes monitoring), one hour, per session, up to 2 sessions per day</td>
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<tr>
<td>S9473</td>
<td>Pulmonary rehabilitation program, nonphysician provider, per diem</td>
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## Related Information

N/A
Evidence Review

Description

Pulmonary rehabilitation (PR) is a multidisciplinary approach to reducing symptoms and improving quality of life in patients with compromised lung function. PR programs generally include a patient assessment followed by therapeutic interventions including exercise training, education, and behavior change.

Background

In 2013, the American Thoracic Society (ATS) and the European Respiratory Society (ERS) defined pulmonary rehabilitation (PR) as a “comprehensive intervention based on a thorough patient assessment followed by patient-tailored therapies that include, but are not limited to, exercise training, education, and behavior change.” PR programs are intended to improve patient functioning and quality of life. Most research has focused on patients with chronic obstructive pulmonary disease (COPD), although there has been some interest in PR in patients with asthma, cystic fibrosis, or bronchiectasis.

PR is also routinely offered to patients awaiting lung transplantation and lung volume reduction surgery. PR before lung surgery may stabilize or improve patients’ exercise tolerance, teach patients techniques that will help them recover after the procedure, and allow health care providers to identify individuals who might be suboptimal surgical candidates due to noncompliance, poor health, or other reasons.

Summary of Evidence

Chronic Pulmonary Disease Rehabilitation

For individuals with moderate-to-severe COPD who receive a single course of outpatient PR, the evidence includes numerous systematic reviews of randomized controlled trials (RCTs). The relevant outcomes are symptoms, functional outcomes, and quality of life. The published studies found improved outcomes (ie, functional ability, quality of life) in patients with moderate-to-severe COPD who underwent a comprehensive PR program in the outpatient setting. Among the many randomized trials, the structure of the PR programs varied, so it is not possible to
provide guidance on the optimal components or duration of a PR program. The evidence is sufficient to determine that the technology results in a meaningful improvement in the net health outcome.

For individuals with idiopathic pulmonary fibrosis (IPF) who receive a single course of outpatient PR, the evidence includes an RCT. The relevant outcomes are symptoms, functional outcomes, and quality of life. The number of controlled studies is limited. One small RCT evaluated a comprehensive PR program in patients with idiopathic pulmonary fibrosis; at 3 months postintervention, outcomes did not differ between groups who did and did not receive PR. The evidence is insufficient to determine the effects of the technology on health outcomes.

For individuals with bronchiectasis who receive a single course of outpatient PR, the evidence includes a systematic review of RCTs. The relevant outcomes are symptoms, functional outcomes, and quality of life. The systematic review of 4 RCTs on PR for patients with bronchiectasis found that some, but not all, outcomes improved more with PR than with nonexercise control conditions immediately after the intervention. The evidence is insufficient to determine the effects of the technology on health outcomes.

Although most published evidence on outpatient pulmonary rehabilitation for chronic pulmonary diseases assesses COPD, observational studies have reported on outcomes from pulmonary rehabilitation for other chronic pulmonary diseases. Clinical guidelines from pulmonary organizations have supported the use of outpatient pulmonary rehabilitation for individuals who are experiencing disabling symptoms and have significantly diminished quality of life despite optimal medical management. Therefore, outpatient pulmonary rehabilitation may be considered medically necessary for this population.

**Preparation for Lung Surgery**

For individuals with scheduled lung surgery for volume reduction, transplantation, or resection who receive a single course of outpatient PR, the evidence includes RCTs and observational studies. The relevant outcomes are symptoms, functional outcomes, and quality of life. There is a lack of large RCTs comparing PR with no PR for preoperative candidates undergoing lung volume reduction surgery (LVRS), lung transplantation, or lung cancer resection. Moreover, the available studies have evaluated exercise programs, but not necessarily comprehensive PR programs. Also, the few small RCTs and observational studies have only reported short-term outcomes and inconsistent evidence of benefit even on these outcomes. The evidence is insufficient to determine the effects of the technology on health outcomes.
Findings from the National Emphysema Treatment Trial have suggested that pulmonary rehabilitation is an appropriate component of care for patients with COPD before undergoing lung volume reduction surgery. Also, pulmonary rehabilitation is considered standard of care in patients undergoing lung transplantation to maximize preoperative pulmonary status. Thus, pulmonary rehabilitation may be considered medically necessary for patients considered appropriate candidates for lung volume reduction surgery or lung transplantation.

**Pulmonary Rehabilitation After Lung Surgery**

For individuals who have had LVRS who receive a single course of outpatient PR, the evidence includes a case series. The relevant outcomes are symptoms, functional outcomes, and quality of life. No published RCTs were identified. The case series evaluated a comprehensive PR program after LVRS in 49 patients who had not received preoperative PR. Health-related quality of life was higher at 3 to 6 months and at 12 to 18 months postsurgery. The series did not provide data on patients who underwent LVRS and did not have postoperative PR, or patients who had preoperative PR. The evidence is insufficient to determine the effects of the technology on health outcomes.

For individuals who have had lung transplantation who receive a single course of outpatient PR, the evidence includes RCTs, systematic reviews, and observational studies. The relevant outcomes are symptoms, functional outcomes, and quality of life. Neither of the 2 RCTs identified in a 2010 systematic review reported functional outcomes, but uncontrolled studies have reported improvements in functional outcomes. An RCT, published after the systematic review, found that patients who had a postsurgical exercise intervention walked more 1 year postdischarge than before and had a significantly greater 6-minute walk distance. Findings on other outcomes were mixed. The most recent RCT (2017) did not identify a difference in outcomes with longer duration of pulmonary rehabilitation. Case series data also support improvements in 6-minute walk distance after postoperative PR. The evidence is sufficient to determine that the technology results in a meaningful improvement in the net health outcome.

For individuals who have had lung cancer resection who receive a single course of outpatient PR, the evidence includes two RCTs. The relevant outcomes are symptoms, functional outcomes, and quality of life. One small RCT evaluated a comprehensive PR program in patients who underwent thoracotomy for lung cancer. The trial was terminated early, had a high dropout rate, and reported mixed findings. An exercise-only intervention in patients who had lung cancer surgery had mixed findings and did not evaluate functional outcomes. The evidence is insufficient to determine the effects of the technology on health outcome.
Repeat or Maintenance Rehabilitation

For individuals who have had an initial course of PR who receive repeat or maintenance outpatient PR, the evidence includes RCTs. The relevant outcomes are symptoms, functional outcomes, and quality of life. This small RCT had methodologic limitations and did not report inpatient and outpatient outcomes separately; it also lasted only 3 weeks. The evidence is insufficient to determine the effects of the technology on health outcome.

Home-Based Rehabilitation

For individuals who have an indication for outpatient PR who receive a single course of home-based PR, the evidence includes RCTs and systematic reviews. The relevant outcomes are symptoms, functional outcomes, and quality of life. Most studies of home-based PR have compared outcomes with standard care. Very few have compared home-based PR with hospital- or clinic-based PR, and the available studies are mostly of low quality. The evidence is insufficient to determine the effects of the technology on health outcome.

Ongoing and Unpublished Clinical Trials

Some currently unpublished trials that might influence this review are listed in Table 1.

Table 1. Summary of Key Trials

<table>
<thead>
<tr>
<th>NCT No.</th>
<th>Trial Name</th>
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<th>Completion Date</th>
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<tr>
<td>NCT02823587</td>
<td>Effects of Pulmonary Rehabilitation on Secretion Transport, Inflammation and Respiratory System Strength and Quality of Life in Patients With Bronchiectasis</td>
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<td>NCT02426437</td>
<td>Examining Pulmonary Rehabilitation on Discharged COPD Patients</td>
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<td>Dec 2019</td>
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<td>NCT03095859</td>
<td>Post-operative, Inpatient Rehabilitation After Lung Transplant Evaluation: A Feasibility Study</td>
<td>40</td>
<td>Mar 2020</td>
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Practice Guidelines and Position Statements

American Thoracic Society and European Respiratory Society

A 2015 joint statement on pulmonary rehabilitation (PR) was issued by the American Thoracic Society (ATS) and the European Respiratory Society (ERS). The statement included the following relevant conclusions:

- “PR has demonstrated physiological, symptom-reducing, psychosocial, and health economic benefits in multiple outcome areas for patients with chronic respiratory diseases.”

- “The evidence indicates that patients who benefit from PR include not only persons with moderate to severe airflow limitation but also those with mild to moderate airflow limitation with symptom-limited exercise tolerance, those after hospitalization for COPD exacerbation, and those with symptomatic non-COPD respiratory conditions.”
• “Patients graduating from a PR program stand to benefit from a home, community-based, or program-based maintenance exercise program to support the continuation of positive exercise behavior.”

In 2017, the Society issued a joint statement on the management of COPD exacerbation. For patients hospitalized with a COPD exacerbation, they suggest “the initiation of pulmonary rehabilitation within 3 weeks after hospital discharge” (strength: conditional; quality of evidence: very low). In addition, “[they] suggest not initiating pulmonary rehabilitation during hospitalisation” (strength: conditional; quality of evidence: very low).

**American College of Chest Physicians**

In 2011, joint guidelines on management of COPD were issued by the American College of Physicians, the American College of Chest Physicians, American Thoracic Society, and European Respiratory Society. The guidelines recommend that “clinicians should prescribe pulmonary rehabilitation for symptomatic patients with an FEV [forced expiratory volume] <50% predicted (Grade: strong recommendation, moderate-quality evidence). Clinicians may consider pulmonary rehabilitation for symptomatic or exercise-limited patients with an FEV >50% predicted (Grade: weak recommendation, moderate-quality evidence).”

**Medicare National Coverage**

In 2007, the Centers for Medicare and Medicaid Services affirmed its position that a national coverage determination for PR is not appropriate.

**References**


<table>
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<tr>
<th>Date</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>05/01/18</td>
<td>Annual Review, approved April 18, 2018. Policy updated with literature review through January 2018; references 21 and 36 added; reference 26 updated. Policy statements unchanged; statements reordered to align with evidence summary.</td>
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<tr>
<td>06/01/19</td>
<td>Annual Review, approved May 7, 2019. Policy updated with literature review through January 2019; no references added. Policy statements unchanged. Removed CPT codes 94799 and 97799.</td>
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<td>11/01/19</td>
<td>Minor update, updated Related Policies.</td>
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